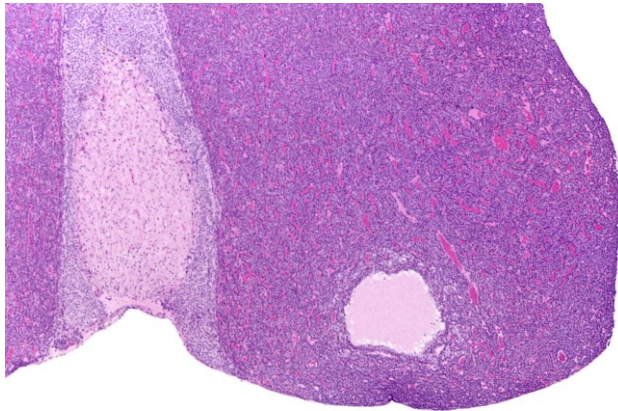
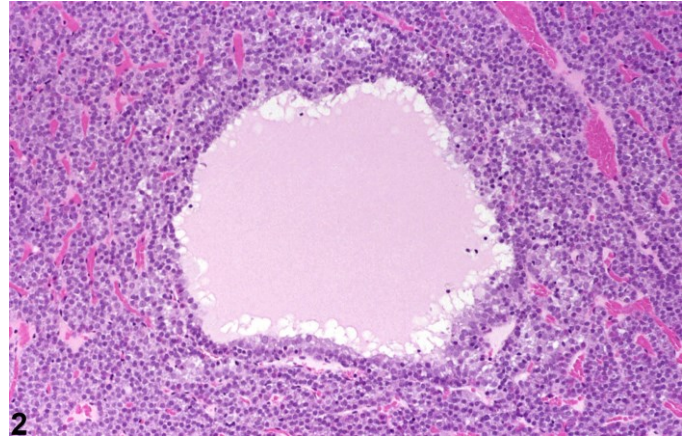


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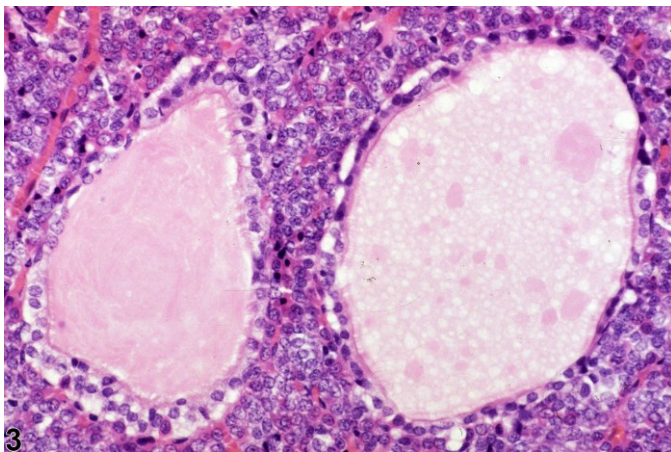
Pituitary Gland – Cyst



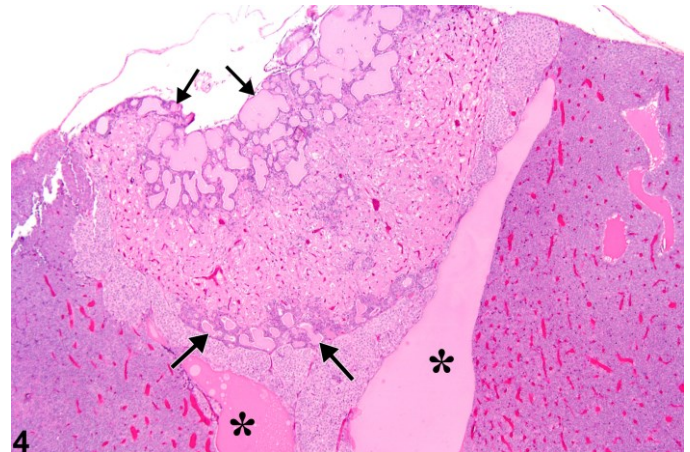
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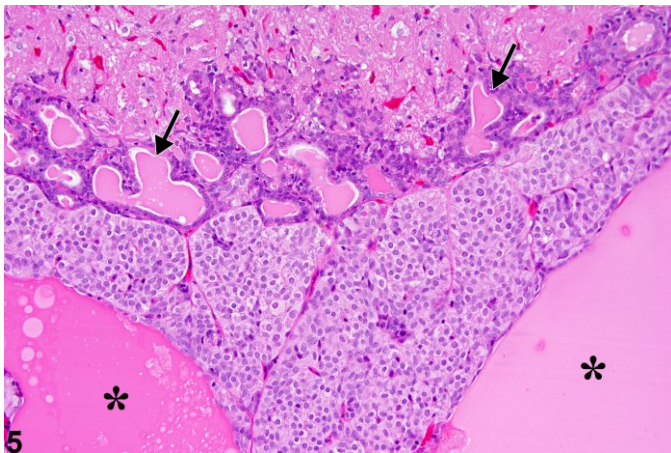
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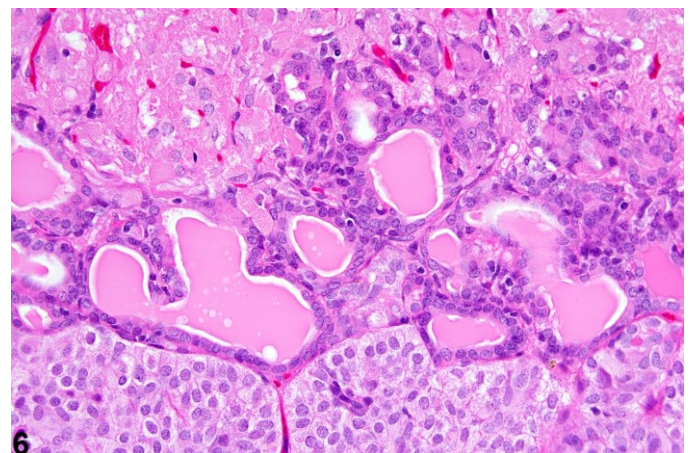
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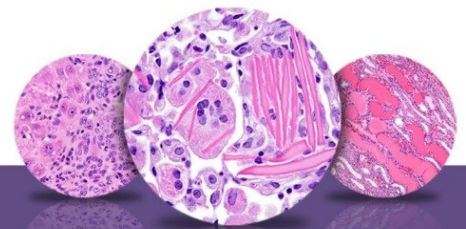


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6

Figure Legend: **Figure 1** Pituitary Gland - Cyst in a female Harlan Sprague-Dawley rat from a chronic study. A cyst filled with pale eosinophilic proteinaceous fluid is present in the pars distalis. **Figure 2** Pituitary Gland - Cyst in a female Harlan Sprague-Dawley rat from a chronic study. Higher



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magnification of Figure 1 shows that the cyst is partially lined by tall cuboidal ciliated epithelium. **Figure 3** Pituitary Gland - Cyst in a male F344/n rat from a chronic study. The cysts in the pars distalis are lined by ciliated cuboidal cells and contain flocculant eosinophilic proteinaceous material. **Figure 4** Pituitary Gland - Cyst, multiple in a female F344/N rat from a chronic study. Multiple cysts are present in the pars nervosa (arrows), as well as a dilated persistent Rathke's cleft (asterisks), are filled with eosinophilic proteinaceous material. **Figure 5** Pituitary Gland - Cyst, multiple in a female F344/N rat from a chronic study. Higher magnification of Figure 4 shows the cysts in the pars nervosa (arrows) and the dilated persistent Rathke's cleft (asterisks) in greater detail. **Figure 6** Pituitary Gland - Cysts, multiple in a female F344/N rat from a chronic study. Higher magnification of Figure 5 shows the epithelium-lined cysts are present in the pars nervosa.

Comment: Pituitary cysts in the pars distalis are frequent incidental findings in rats more than a year old and in mice. Most are remnants of the craniopharyngeal (Rathke's) pouch and are distinct from Rathke's cleft dilation that is localized between the pars distalis and pars intermedia. Pituitary cysts may be single or multiple, may contain eosinophilic proteinaceous or mucoproteinaceous fluid, are often lined by ciliated cuboidal to columnar cells, and typically do not compress surrounding parenchyma. The ciliated epithelial lining may be incomplete. The epithelial lining distinguishes them from angiectasis and/or enlarged vascular sinuses and from cystic degeneration, where irregular edges are lined by degenerating secretory cells. Occasionally, the adenohypophysis contains small follicle-like structures that are incidental and should not be diagnosed as cysts. The presence of multiple epithelium-lined cysts in the pars nervosa (arrows, Figure 4 and Figure 5) suggests an origin from the infundibular lumen. A dilated Rathke's cleft (asterisks, Figure 4 and Figure 5) may also be present.

The majority of the literature dealing with pituitary cysts makes reference to a craniopharyngeal origin and further indicates that Rathke's pouch is part of the craniopharyngeal structure. Consequently, cysts of Rathke's pouch and craniopharyngeal cysts are synonymous. Determination of the origin of specific cysts may be difficult.

Recommendation: While attempting to distinguish the origin of pituitary cysts is not critical, these cysts should be diagnosed whenever present, and the part of the pituitary in which the cysts occur



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should be indicated in the diagnosis (e.g., Pituitary, Pars nervosa – Cyst). If there are multiple cysts, the modifier “multiple” should be included in the diagnosis. Since chronic studies may incorporate in utero exposure, developmental alterations potentially related to treatment could influence the ultimate presence and appearance of pituitary cysts. A severity grade would be appropriate if there is a potential treatment-related effect on the occurrence or severity of this change.

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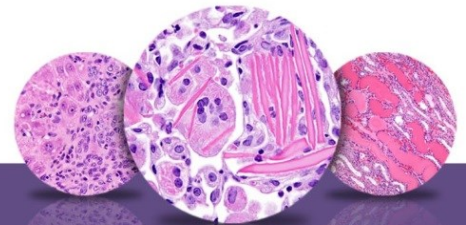
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